IN THE CLAIMS:

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Previously presented) An apparatus for atomic layer formation on a substrate, comprising:

a vessel having at least one gas discharge port;

a substrate holder within the vessel for supporting a substrate thereon; and

a rotor provided between the substrate holder and a side wall of the vessel, rotatably mounted for rotation around the substrate holder and having a vent hole or vent notch; and

a rotary drive for rotating the rotor, thereby alternately bringing the vent hole or vent notch into communication with the gas discharge port for discharge of a reactive gas onto a substrate supported by the substrate holder and closing the at least one gas discharge port.

16. (Previously presented) An apparatus for atomic layer formation according

to claim 15, wherein the vessel has a plurality of gas discharge ports including a reaction gas discharge port and a purge gas discharge port.

17. (Previously presented) An apparatus for atomic layer formation according to claim 15, wherein the vessel has a plurality of gas discharge ports including reaction gas discharge ports and purge gas discharge ports arranged alternately around a circumference of the vessel.

18. (Currently amended) An apparatus for atomic layer formation according to claim 15, wherein at least an upper inner surface of a side wall of the vessel has a flat shape or a cone-like shape, an upper outer surface of the rotor has a flat shape or a cone-like shape in conformity with the flat shape or the cone-like shape of the side wall of the vessel, and at least one floating gas discharge port is provided at an inner surface of the flat or cone-shaped side wall of the vessel, and

the rotor ~~rotating body~~ is floated by gas introduced through the at least one floating gas discharge port so as to form a space between the upper inner surface of the side wall of the vessel and the upper outer surface of the rotor.

19. (Previously presented) An apparatus for atomic layer formation according to claim 18, wherein a plurality of floating gas discharge ports are provided around a circumference of the flat or cone-shaped inner surface of the side wall of the vessel.

20. (Previously presented) An apparatus for atomic layer formation according to claim 18, wherein an exhaust port is provided at the flat or cone-shaped inner surface of the side wall of the vessel, and the floating gas is exhausted via the exhaust port.

21. (Previously presented) An apparatus for atomic layer formation according to claim 15, further comprising means for adjusting pressure and suppressing pressure variations of the gas discharged from the gas discharge port.

22. (Previously presented) An apparatus for atomic layer formation according to claim 15, wherein the substrate holder is supported by an axially extending stem defining a central axis, and the substrate holder is rotated around the central axis.

23. (Previously presented) An apparatus for atomic layer formation according

to claim 15, further comprising means for heating the substrate supported on the substrate holder.

24. (Previously presented) An apparatus for atomic layer formation according to claim 15, further comprising exhaust means for reducing pressure inside of the vessel.

25. (Previously presented) An apparatus for atomic layer formation according to claim 15, further comprising:

control means for adjusting partial pressure of at least one of the reaction gas, the purge gas and the floating gas; and

means for controlling direction of rotation and rotational speed of the rotor.

26. (Currently amended) An apparatus for atomic layer formation on a substrate, comprising:

a reaction vessel providing an inner conical support surface defining a portion of a reaction chamber;

exhaust means for evacuating the reaction chamber;

a rotor with a conical wall and a gas hole or notch extending through the conical wall:

a plurality of floating gas ports spaced around the inner conical support surface:

floating gas regulating means for establishing a flow of floating gas, at a predetermined pressure, through the floating gas ports to float the rotor with an outer conical surface of the rotor spaced from the inner conical support surface;

purge gas supply means for supplying a purge gas to at least one purge gas port in the conical support surface;

a substrate holder for supplying ~~supporting~~ a substrate within the reaction chamber;

reaction gas supply means for supporting a reactive gas, for forming an atomic layer, through at least one reaction gas port in the conical support surface; and

a rotary drive for rotatably driving the rotor, thereby alternately bringing the gas hole or notch into communication with the reaction gas port for discharge of a reactive gas onto an upper surface of the substrate and closing the reaction gas port.

27. (Previously presented) An apparatus for atomic layer formation according to claim 26, wherein:

a plurality of reaction gas ports and a plurality of purge gas ports are centered on and spaced around a first circumference of the conical support surface, the purge gas ports alternating with the reaction gas ports.

28. (Currently amended) An apparatus for atomic layer formation according to claim 27, wherein:

the plurality of ~~a~~ floating gas ports are arranged centered on and evenly spaced around a second circumference of the conical support surface coaxial with and spaced from the first circumference.

29. (Previously presented) An apparatus for atomic layer formation according to claim 26, wherein the rotary drive is a magnetic drive including a plurality of magnetic members carried by the rotor.

30. (Previously presented) An apparatus for atomic layer formation according to claim 27, further comprising:

means for supplying a first reaction gas to a first group of the plurality of reaction gas ports; and

means for supplying a second reaction gas to a second group of the plurality of reaction gas ports;

wherein the reaction gas ports of the first group alternate with the reaction gas ports of the second group around the first circumference; and

wherein the rotor is rotated to bring the gas hole or notch into communication, in succession, with a reaction gas port of the first group, a purge gas port, and a reaction gas port of the second group, whereby, in succession, the first reaction gas is introduced into the reaction chamber for formation of a first atomic layer, the reaction chamber is then purged by the purge gas, and then the second reaction gas is introduced into the reaction chamber for formation of a second atomic layer.

31. (Previously presented) A process for formation of atomic layers on a substrate, comprising:

rotatably driving a rotor with a conical wall for rotation relative to a conical support surface defining, in part, a reaction chamber;

introducing a floating gas between the conical support surface and the rotor to cause the rotor to separate from contact with the conical support surface with a clearance therebetween;

mounting a substrate on a substrate holder within the reaction chamber;

introducing a first reactive gas through a first reactive gas port in the conical support surface, through a gas port or notch in the conical wall of the rotor, and onto a surface of the substrate, as rotation of the rotor brings the gas port or notch into communication with the first reaction gas port, for formation of a first atomic layer on the substrate;

introducing a purge gas through a purge gas port in the conical support surface, through the gas port or notch in the conical wall of the rotor, as rotation of the rotor brings the gas port or notch into communication with the port gas and closes the first reactive gas port; and

introducing a second reactive gas through a second reactive gas port in the conical support surface, through the gas port or notch in the conical wall of the rotor, and onto a surface of the substrate, as rotation of the rotor brings the gas port or notch into communication with the second reactive gas port and closes the first reactive gas port and the purge gas port, for formation of a second atomic layer on the first atomic layer.